

# SEQUENCE LISTING

<110> Union Chimique Belge, S.A.  
Nocka, Karl  
Pirozzi, Gregory  
Einstein, Richard

<120> NOVEL GENES ASSOCIATED WITH ALLERGIC HYPERSENSITIVITY AND MAST CELL ACTIVATION

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<170> PatentIn version 3.1

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ggcggcggcc gggggcc atg gcc gag ggc ggc ggg ggc gcg cgg agg agg gcg 412  
Met Ala Glu Gly Gly Gly Gly Ala Arg Arg Arg Ala  
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ccg gcg ctg ctc gag gct gcc cgc gcg cgc tac gag agc ctg cac atc 460  
Pro Ala Leu Leu Glu Ala Ala Arg Ala Arg Tyr Glu Ser Leu His Ile  
15 20 25

tcg gac gac gtg ttc ggc gag tcc ggc ccg gac agc ggc ggg aac ccc Ser Asp Asp Val Phe Gly Glu Ser Gly Pro Asp Ser Gly Gly Asn Pro 30 35 40	508
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gac gac gag cgc gag ccc ccg gga ccc cca ggg gcc gcc ccg cca ccg Asp Asp Glu Arg Glu Pro Pro Gly Pro Gly Ala Ala Pro Pro Pro 65 70 75	604
ccc cgc gcc ccg gac gca cag gag ccg gag gag gac gag gcc ggc gcg Pro Arg Ala Pro Asp Ala Gln Glu Pro Glu Glu Asp Glu Ala Gly Ala 80 85 90	652
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acc ggc ggt ccc acc cga aag atg ccc ccc agc gcc agt gcc gtg gac Thr Gly Gly Pro Thr Arg Lys Met Pro Pro Ser Ala Ser Ala Val Asp 110 115 120	748
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gac tcc ctg cag aac agc ttc gac tct gcc ttc agg cct tcc caa acc Asp Ser Leu Gln Asn Ser Phe Asp Ser Ala Phe Arg Pro Ser Gln Thr 240 245 250	1132
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Thr Cys Thr Glu Arg Glu Leu Arg Lys Arg Lys Lys Arg Lys Phe Ser	
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Leu Trp Val Arg Gln Cys Ser Ser Thr Gly Phe Ile Ile Gln Ile Tyr	
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Val His Leu Lys Glu Gly Gly Gly Pro Asp Gly Leu Asp Ala Leu Lys	
305 310 315	
aat aag ccc cag ctc cac agc atg gtg gcc agg agc ctg tgc cgg aac	1372
Asn Lys Pro Gln Leu His Ser Met Val Ala Arg Ser Leu Cys Arg Asn	
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gcg gca ggc aag aac tac atc att ttc acg ggg ccc agc atc acc agc	1420
Ala Ala Gly Lys Asn Tyr Ile Ile Phe Thr Gly Pro Ser Ile Thr Ser	
335 340 345	
ctg acg ctg ttt gaa gag ttt gag aag caa ggg att tac tgc tgc ggc	1468
Leu Thr Leu Phe Glu Glu Phe Glu Lys Gln Gly Ile Tyr Cys Cys Gly	
350 355 360	
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Leu Leu Arg Ala Arg Lys Ser Asp Cys Thr Gly Leu Pro Leu Ser Met	
365 370 375 380	
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Leu Thr Asn Pro Ala Thr Pro Pro Ala Arg Gly Gln Tyr Gln Ile Lys	
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Met Lys Gly Asn Met Ser Leu Ile Cys Trp Tyr Asn Lys Gly His Phe	
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cgc ttc ctg acc aac gcc tac tcc ccg gtg cag cag gga gtc atc atc	1660
Arg Phe Leu Thr Asn Ala Tyr Ser Pro Val Gln Gln Gly Val Ile Ile	
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aaa agg aag agt ggg gag atc cca tgc ccc ttg gcc gtg gag gcg ttt	1708
Lys Arg Lys Ser Gly Glu Ile Pro Cys Pro Leu Ala Val Glu Ala Phe	
430 435 440	
gcc gct cac ctg agc tac atc tgc aga tac gat gac aaa tac agc aag	1756
Ala Ala His Leu Ser Tyr Ile Cys Arg Tyr Asp Asp Lys Tyr Ser Lys	
445 450 455 460	
tat ttc att tct cat aaa cca aac aag acc tgg cag cag gtg ttc tgg	1804
Tyr Phe Ile Ser His Lys Pro Asn Lys Thr Trp Gln Gln Val Phe Trp	
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ttc gcc atc agc atc gcc atc aac aat gcc tac atc ctg tac aaa atg	1852
Phe Ala Ile Ser Ile Ala Ile Asn Asn Ala Tyr Ile Leu Tyr Lys Met	
480 485 490	
tca gac gcc tac cac gtg aag agg tac agc cgg gcg cag ttt gga gag	1900
Ser Asp Ala Tyr His Val Lys Arg Tyr Ser Arg Ala Gln Phe Gly Glu	
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10005907-120701

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<212> PRT  
<213> Homo sapiens

<400> 7

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Glu Ala Ala Arg Ala Arg Tyr Glu Ser Leu His Ile Ser Asp Asp Val  
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Phe Gly Glu Ser Gly Pro Asp Ser Gly Gly Asn Pro Phe Tyr Ser Thr  
35 40 45

Ser Ala Ala Ser Arg Ser Ser Ser Ala Ala Ser Ser Asp Asp Glu Arg  
50 55 60

Glu Pro Pro Gly Pro Pro Gly Ala Ala Pro Pro Pro Pro Arg Ala Pro  
65 70 75 80

Asp Ala Gln Glu Pro Glu Glu Asp Glu Ala Gly Ala Gly Trp Ser Ala  
85 90 95

Ala Leu Arg Asp Arg Pro Pro Pro Arg Phe Glu Asp Thr Gly Gly Pro  
100 105 110

Thr Arg Lys Met Pro Pro Ser Ala Ser Ala Val Asp Phe Phe Gln Leu  
115 120 125

Phe Val Pro Asp Asn Val Leu Lys Asn Met Val Val Gln Thr Asn Met  
130 135 140

Tyr Ala Lys Lys Phe Gln Glu Arg Phe Gly Ser Asp Gly Ala Trp Val  
145 150 155 160

Glu Val Thr Leu Thr Glu Met Lys Ala Phe Leu Gly Tyr Met Ile Ser  
165 170 175

Thr Ser Ile Ser His Cys Glu Ser Val Leu Ser Ile Trp Ser Gly Gly  
180 185 190

Phe Tyr Ser Asn Arg Ser Leu Ala Leu Val Met Ser Gln Ala Arg Phe

10005907-120701

10005907-120701

195	200	205
Glu Lys Ile Leu Lys Tyr Phe His Val Val Ala Phe Arg Ser Ser Gln 210 215 220		
Thr Thr His Gly Leu Tyr Lys Val Gln Pro Phe Leu Asp Ser Leu Gln 225 230 235 240		
Asn Ser Phe Asp Ser Ala Phe Arg Pro Ser Gln Thr Gln Val Leu His 245 250 255		
Glu Pro Leu Ile Asp Glu Asp Pro Val Phe Ile Ala Thr Cys Thr Glu 260 265 270		
Arg Glu Leu Arg Lys Arg Lys Lys Arg Lys Phe Ser Leu Trp Val Arg 275 280 285		
Gln Cys Ser Ser Thr Gly Phe Ile Ile Gln Ile Tyr Val His Leu Lys 290 295 300		
Glu Gly Gly Gly Pro Asp Gly Leu Asp Ala Leu Lys Asn Lys Pro Gln 305 310 315 320		
Leu His Ser Met Val Ala Arg Ser Leu Cys Arg Asn Ala Ala Gly Lys 325 330 335		
Asn Tyr Ile Ile Phe Thr Gly Pro Ser Ile Thr Ser Leu Thr Leu Phe 340 345 350		
Glu Glu Phe Glu Lys Gln Gly Ile Tyr Cys Cys Gly Leu Leu Arg Ala 355 360 365		
Arg Lys Ser Asp Cys Thr Gly Leu Pro Leu Ser Met Leu Thr Asn Pro 370 375 380		
Ala Thr Pro Pro Ala Arg Gly Gln Tyr Gln Ile Lys Met Lys Gly Asn 385 390 395 400		
Met Ser Leu Ile Cys Trp Tyr Asn Lys Gly His Phe Arg Phe Leu Thr 405 410 415		
Asn Ala Tyr Ser Pro Val Gln Gln Gly Val Ile Ile Lys Arg Lys Ser 420 425 430		
Gly Glu Ile Pro Cys Pro Leu Ala Val Glu Ala Phe Ala Ala His Leu 435 440 445		

Ser Tyr Ile Cys Arg Tyr Asp Asp Lys Tyr Ser Lys Tyr Phe Ile Ser  
450 455 460

His Lys Pro Asn Lys Thr Trp Gln Gln Val Phe Trp Phe Ala Ile Ser  
465 470 475 480

Ile Ala Ile Asn Asn Ala Tyr Ile Leu Tyr Lys Met Ser Asp Ala Tyr  
485 490 495

His Val Lys Arg Tyr Ser Arg Ala Gln Phe Gly Glu Arg Leu Val Arg  
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Glu Leu Leu Gly Leu Glu Asp Ala Ser Pro Thr His  
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<212> DNA  
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agggtaacac caaatcacta aacagcactg tttgtacaga a atg tcg aaa agc tgt 176  
Met Ser Lys Ser Cys  
1 5

gga aat aat tta gcg gcc att tct gta gga att tcg ctt ctt tta ctc 224  
Gly Asn Asn Leu Ala Ala Ile Ser Val Gly Ile Ser Leu Leu Leu Leu  
10 15 20

tta gtg gtt tgt gga att ggg tgt gtt tgg cac tgg aaa cac cgt gtt 272  
Leu Val Val Cys Gly Ile Gly Cys Val Trp His Trp Lys His Arg Val  
25 30 35

gcc aca cga ttt acc tta ccg agg ttt tta caa agg aga agc agc agg 320  
Ala Thr Arg Phe Thr Leu Pro Arg Phe Leu Gln Arg Arg Ser Ser Arg  
40 45 50

aga aaa gtc tgt act aaa aca ttc ttg ggc ccc cgc atc att ggc tta 368  
Arg Lys Val Cys Thr Lys Thr Phe Leu Gly Pro Arg Ile Ile Gly Leu  
55 60 65

agg cat gaa atc tca gtt gaa acc caa gac cac aaa tct gct gtc agg 416  
Arg His Glu Ile Ser Val Glu Thr Gln Asp His Lys Ser Ala Val Arg  
70 75 80 85



gga aat aac aca cac gac aac tat gaa aat gtg gaa gca ggt cct ccc Gly Asn Asn Thr His Asp Asn Tyr Glu Asn Val Glu Ala Gly Pro Pro 90 95 100	464
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tct aat ttc gag gag cat atc tat gga aat gag aca tct tct gac tat Ser Asn Phe Glu Glu His Ile Tyr Gly Asn Glu Thr Ser Ser Asp Tyr 120 125 130	560
tat aac ttc cag aag cct cgt cct tct gaa gtt cct caa gat gaa gat Tyr Asn Phe Gln Lys Pro Arg Pro Ser Glu Val Pro Gln Asp Glu Asp 135 140 145	608
ata tac att ctt cca gat tca tat tag cttttcaaaa tattgacttt Ile Tyr Ile Leu Pro Asp Ser Tyr 150 155	655
tggtattgga tgataaatat tcaactgtaat ttttcaacag caaagacaag gaatcaaact	715
aaatgttgat caactgtaga ctggataaag aaaatgtggt acacatacac catagaatat	775
tatgcagccg taaaaaaaga acaaaactaa catgggaaca gaaaatcaaa taccacatat	835
tctcacttaa aagtgggagc taaataataa gaacacatgg agagaaggag aggaacaaca	895
gacactgggg cctacttgag ggaggacagt ggaaggaggg agagggttcag ggaaaaaaaa	955
aatatcaggt actatgctta gtacacacat gatgaaataa tctgtacacc aaacccccaa	1015
gtcacaagtg ttccctacata acaaacctga acatgtaccc ctgaacataa aattataatt	1075
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tgcccaaatg cctagaacat cacataaggc actaaatgcc tcatgtttta ctgacgggaa 1915  
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 <213> Homo sapiens

<400> 9

Met Ser Lys Ser Cys Gly Asn Asn Leu Ala Ala Ile Ser Val Gly Ile  
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Ser Leu Leu Leu Leu Val Val Cys Gly Ile Gly Cys Val Trp His  
 20 25 30

Trp Lys His Arg Val Ala Thr Arg Phe Thr Leu Pro Arg Phe Leu Gln  
 35 40 45

Arg Arg Ser Ser Arg Arg Lys Val Cys Thr Lys Thr Phe Leu Gly Pro  
 50 55 60

Arg Ile Ile Gly Leu Arg His Glu Ile Ser Val Glu Thr Gln Asp His  
 65 70 75 80

Lys Ser Ala Val Arg Gly Asn Asn Thr His Asp Asn Tyr Glu Asn Val  
 85 90 95

Glu Ala Gly Pro Pro Lys Ala Lys Gly Lys Thr Asp Lys Glu Leu Tyr  
 100 105 110

Glu Asn Thr Gly Gln Ser Asn Phe Glu Glu His Ile Tyr Gly Asn Glu  
 115 120 125

Thr Ser Ser Asp Tyr Tyr Asn Phe Gln Lys Pro Arg Pro Ser Glu Val  
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Pro Gln Asp Glu Asp Ile Tyr Ile Leu Pro Asp Ser Tyr  
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<220>  
 <221> CDS

10005907-120701

<222> (373)..(651)  
 <223> 2nd open reading frame

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 ttggcttaag gc atg aaa tct cag ttg aaa ccc aag acc aca aat ctg ctg 411  
                   Met Lys Ser Gln Leu Lys Pro Lys Thr Thr Asn Leu Leu  
                   1                  5                  10  
 tca ggg gaa ata aca cac acg aca act atg aaa atg tgg aag cag gtc 459  
 Ser Gly Glu Ile Thr His Thr Thr Thr Met Lys Met Trp Lys Gln Val  
                   15                  20                  25  
 ctc cca aag cta aag gaa aaa ccg ata agg aac tat atg aaa aca cag 507  
 Leu Pro Lys Leu Lys Glu Lys Pro Ile Arg Asn Tyr Met Lys Thr Gln  
                   30                  35                  40                  45  
 ggc agt cta att tcg agg agc ata tct atg gaa atg aga cat ctt ctg 555  
 Gly Ser Leu Ile Ser Arg Ser Ile Ser Met Glu Met Arg His Leu Leu  
                   50                  55                  60  
 act att ata act tcc aga agc ctc gtc ctt ctg aag ttc ctc aag atg 603  
 Thr Ile Ile Thr Ser Arg Ser Leu Val Leu Leu Lys Phe Leu Lys Met  
                   65                  70                  75  
 aag ata tat aca ttc ttc cag att cat att agc ttt tca aaa tat tga 651  
 Lys Ile Tyr Thr Phe Phe Gln Ile His Ile Ser Phe Ser Lys Tyr  
                   80                  85                  90  
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 aactaaatgt tgatcaactg tagactggat aaagaaaatg tggtacacat acaccataga 771  
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1005907-120701

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<212> PRT  
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<400> 11

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Ile Thr His Thr Thr Thr Met Lys Met Trp Lys Gln Val Leu Pro Lys  
20 25 30

Leu Lys Glu Lys Pro Ile Arg Asn Tyr Met Lys Thr Gln Gly Ser Leu  
35 40 45

Ile Ser Arg Ser Ile Ser Met Glu Met Arg His Leu Leu Thr Ile Ile  
50 55 60

Thr Ser Arg Ser Leu Val Leu Leu Lys Phe Leu Lys Met Lys Ile Tyr  
65 70 75 80

Thr Phe Phe Gln Ile His Ile Ser Phe Ser Lys Tyr  
85 90

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<211> 1662  
<212> DNA

<213> Homo sapiens

<220>

<221> CDS

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Met	Val	Gln	Arg	Leu	Trp	Val	Ser	Arg	Leu	Leu	Arg	His	Arg	Lys	Ala	
1				5					10					15		

cag	ctc	ttg	ctg	gtc	aac	ctg	cta	acc	ttt	ggc	ctg	gag	gtg	tgt	ttg	96
Gln	Leu	Leu	Leu	Val	Asn	Leu	Leu	Thr	Phe	Gly	Leu	Glu	Val	Cys	Leu	
			20					25					30			

gcc	gca	ggc	atc	acc	tat	gtg	ccg	cct	ctg	ctg	ctg	gaa	gtg	ggg	gta	144
Ala	Ala	Gly	Ile	Thr	Tyr	Val	Pro	Pro	Leu	Leu	Leu	Glu	Val	Gly	Val	
		35					40					45				

gag	gag	aag	ttc	atg	acc	atg	gtg	ctg	ggc	att	ggg	cca	gtg	ctg	ggc	192
Glu	Glu	Lys	Phe	Met	Thr	Met	Val	Leu	Gly	Ile	Gly	Pro	Val	Leu	Gly	
	50					55					60					

ctg	gtc	tgt	gtc	ccg	ctc	cta	ggc	tca	gcc	agt	gac	cac	tgg	cgt	gga	240
Leu	Val	Cys	Val	Pro	Leu	Leu	Gly	Ser	Ala	Ser	Asp	His	Trp	Arg	Gly	
65					70					75				80		

cgc	tat	ggc	cgc	cgc	cgg	ccc	ttc	atc	tgg	gca	ctg	tcc	ttg	ggc	atc	288
Arg	Tyr	Gly	Arg	Arg	Arg	Pro	Phe	Ile	Trp	Ala	Leu	Ser	Leu	Gly	Ile	
				85					90					95		

ctg	ctg	agc	ctc	ttt	ctc	atc	cca	agg	gcc	ggc	tgg	cta	gca	ggg	ctg	336
Leu	Leu	Ser	Leu	Phe	Leu	Ile	Pro	Arg	Ala	Gly	Trp	Leu	Ala	Gly	Leu	
			100					105					110			

ctg	tgc	ccg	gat	ccc	agg	ccc	ctg	gag	ctg	gca	ctg	ctc	atc	ctg	ggc	384
Leu	Cys	Pro	Asp	Pro	Arg	Pro	Leu	Glu	Leu	Ala	Leu	Leu	Ile	Leu	Gly	
		115					120					125				

gtg	ggg	ctg	ctg	gac	ttc	tgt	ggc	cag	gtg	tgc	ttc	act	cca	ctg	gag	432
Val	Gly	Leu	Leu	Asp	Phe	Cys	Gly	Gln	Val	Cys	Phe	Thr	Pro	Leu	Glu	
	130					135					140					

gcc	ctg	ctc	tct	gac	ctc	ttc	cgg	gac	ccg	gac	cac	tgt	cgc	cag	gcc	480
Ala	Leu	Leu	Ser	Asp	Leu	Phe	Arg	Asp	Pro	Asp	His	Cys	Arg	Gln	Ala	
145					150					155					160	

tac	tct	gtc	tat	gcc	ttc	atg	atc	agt	ctt	ggg	ggc	tgc	ctg	ggc	tac	528
Tyr	Ser	Val	Tyr	Ala	Phe	Met	Ile	Ser	Leu	Gly	Gly	Cys	Leu	Gly	Tyr	
				165					170					175		

ctc	ctg	cct	gcc	att	gac	tgg	gac	acc	agt	gcc	ctg	gcc	ccc	tac	ctg	576
Leu	Leu	Pro	Ala	Ile	Asp	Trp	Asp	Thr	Ser	Ala	Leu	Ala	Pro	Tyr	Leu	
			180					185					190			

ggc	acc	cag	gag	gag	tgc	ctc	ttt	ggc	ctg	ctc	acc	ctc	atc	ttc	ctc	624
Gly	Thr	Gln	Glu	Glu	Cys	Leu	Phe	Gly	Leu	Leu	Thr	Leu	Ile	Phe	Leu	
		195				200						205				

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acc tgc gta gca gcc aca ctg ctg gtg gct gag gag gca gcg ctg ggc	672
Thr Cys Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly	
210 215 220	
ccc acc gag cca gca gaa ggg ctg tgc gcc ccc tcc ttg tgc ccc cac	720
Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His	
225 230 235 240	
tgc tgt cca tgc cgg gcc cgc ttg gct ttc cgg aac ctg ggc gcc ctg	768
Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu	
245 250 255	
ctt ccc cgg ctg cac cag ctg tgc tgc cgc atg ccc cgc acc ctg cgc	816
Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg	
260 265 270	
cgg ctc ttc gtg gct gag ctg tgc agc tgg atg gca ctc atg acc ttc	864
Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe	
275 280 285	
acg ctg ttt tac acg gat ttc gtg ggc gag ggg ctg tac cag ggc gtg	912
Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val	
290 295 300	
ccc aga gct gag ccg ggc acc gag gcc cgg aga cac tat gat gaa ggc	960
Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly	
305 310 315 320	
gtt cgg atg ggc agc ctg ggg ctg ttc ctg cag tgc gcc atc tcc ctg	1008
Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu	
325 330 335	
gtc ttc tct ctg gtc atg gac cgg ctg gtg cag cga ttc ggc act cga	1056
Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg	
340 345 350	
gca gtc tat ttg gcc agt gtg gca gct ttc cct gtg gct gcc ggt gcc	1104
Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala	
355 360 365	
aca tgc ctg tcc cac agt gtg gcc gtg gtg aca gct tca gcc gcc ctc	1152
Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu	
370 375 380	
acc ggg ttc acc ttc tca gcc ctg cag atc ctg ccc tac aca ctg gcc	1200
Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala	
385 390 395 400	
tcc ctc tac cac cgg gag aag cag gtg ttc ctg ccc aaa tac cga ggg	1248
Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly	
405 410 415	
gac act gga ggt gct agc agt gag gac agc ctg atg acc agc ttc ctg	1296
Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu	
420 425 430	
cca ggc cct aag cct gga gct ccc ttc cct aat gga cac gtg ggt gct	1344
Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala	
435 440 445	
gga ggc agt ggc ctg ctc cca cct cca ccc gcg ctc tgc ggg gcc tct	1392

Gly	Gly	Ser	Gly	Leu	Leu	Pro	Pro	Pro	Pro	Ala	Leu	Cys	Gly	Ala	Ser		
450						455					460						
gcc	tgt	gat	gtc	tcc	gta	cgt	gtg	gtg	gtg	ggg	gag	ccc	acc	gag	gcc	1440	
Ala	Cys	Asp	Val	Ser	Val	Arg	Val	Val	Val	Gly	Glu	Pro	Thr	Glu	Ala		
465					470					475					480		
agg	gtg	gtt	ccg	ggc	cgg	ggc	atc	tgc	ctg	gac	ctc	gcc	atc	ctg	gat	1488	
Arg	Val	Val	Pro	Gly	Arg	Gly	Ile	Cys	Leu	Asp	Leu	Ala	Ile	Leu	Asp		
				485					490					495			
agt	gcc	ttc	ctg	ctg	tcc	cag	gtg	gcc	cca	tcc	ctg	ttt	atg	ggc	tcc	1536	
Ser	Ala	Phe	Leu	Leu	Ser	Gln	Val	Ala	Pro	Ser	Leu	Phe	Met	Gly	Ser		
			500					505					510				
att	gtc	cag	ctc	agc	cag	tct	gtc	act	gcc	tat	atg	gtg	tct	gcc	gca	1584	
Ile	Val	Gln	Leu	Ser	Gln	Ser	Val	Thr	Ala	Tyr	Met	Val	Ser	Ala	Ala		
			515				520					525					
ggc	ctg	ggg	ctg	gtc	gcc	att	tac	ttt	gct	aca	cag	gta	gta	ttt	gac	1632	
Gly	Leu	Gly	Leu	Val	Ala	Ile	Tyr	Phe	Ala	Thr	Gln	Val	Val	Phe	Asp		
	530					535					540						
aag	agc	gac	ttg	gcc	aaa	tac	tca	gcg	tag							1662	
Lys	Ser	Asp	Leu	Ala	Lys	Tyr	Ser	Ala									
545					550												

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 <212> PRT  
 <213> Homo sapiens

<400> 13

Met	Val	Gln	Arg	Leu	Trp	Val	Ser	Arg	Leu	Leu	Arg	His	Arg	Lys	Ala
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Gln	Leu	Leu	Leu	Val	Asn	Leu	Leu	Thr	Phe	Gly	Leu	Glu	Val	Cys	Leu
			20					25					30		

Ala	Ala	Gly	Ile	Thr	Tyr	Val	Pro	Pro	Leu	Leu	Leu	Glu	Val	Gly	Val
		35					40					45			

Glu	Glu	Lys	Phe	Met	Thr	Met	Val	Leu	Gly	Ile	Gly	Pro	Val	Leu	Gly
	50					55					60				

Leu	Val	Cys	Val	Pro	Leu	Leu	Gly	Ser	Ala	Ser	Asp	His	Trp	Arg	Gly
65					70					75					80

Arg	Tyr	Gly	Arg	Arg	Arg	Pro	Phe	Ile	Trp	Ala	Leu	Ser	Leu	Gly	Ile
			85						90					95	

Leu	Leu	Ser	Leu	Phe	Leu	Ile	Pro	Arg	Ala	Gly	Trp	Leu	Ala	Gly	Leu
			100					105					110		

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Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly  
115 120 125

Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu  
130 135 140

Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala  
145 150 155 160

Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr  
165 170 175

Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu  
180 185 190

Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu  
195 200 205

Thr Cys Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly  
210 215 220

Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His  
225 230 235 240

Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu  
245 250 255

Leu Pro Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg  
260 265 270

Arg Leu Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe  
275 280 285

Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val  
290 295 300

Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly  
305 310 315 320

Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu  
325 330 335

Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg  
340 345 350



1005907-10701

Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala  
355 360 365

Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu  
370 375 380

Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala  
385 390 395 400

Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly  
405 410 415

Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu  
420 425 430

Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala  
435 440 445

Gly Gly Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser  
450 455 460

Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala  
465 470 475 480

Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp  
485 490 495

Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser  
500 505 510

Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala  
515 520 525

Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp  
530 535 540

Lys Ser Asp Leu Ala Lys Tyr Ser Ala  
545 550